

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PCT2004KP119	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2004/011968	International filing date (day/month/year) 20.08.2004	Priority date (day/month/year) 22.08.2003
International Patent Classification (IPC) or national classification and IPC B01J23/88, 38/00, C07C45/32, 47/22, 51/235, 57/055		
Applicant MITSUBISHI CHEMICAL CORPORATION		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <ul style="list-style-type: none"> a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <ul style="list-style-type: none"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4.	This report contains indications relating to the following items: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	2-5, 7-11	YES
	Claims	1, 6	NO
Inventive step (IS)	Claims	3-5, 8, 9	YES
	Claims	1, 2, 6, 7, 10, 11	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
Document 1: JP 2002-338543 A (Mitsui Chemicals, Inc.), 27 November 2002, paragraphs [0010] to [0014]			
Document 2: JP 2002-136881 (Babcock-Hitachi Kabushiki Kaisha), 14 May 2002, claims; embodiments			
Document 3: JP 2592877 B2 (CRI International Inc.), 19 December 1996, paragraph 4, lines 6 to 34; paragraph 6, line 46 to paragraph 7, line 6; fig. 1 & WO 1987/005232 A1 & EP 479343 A2 & US 4720473 A			
Document 4: JP 48-97788 A (Mitsubishi Heavy Industries, Ltd.), 12 December 1973, claims; embodiments			
<p>The invention set forth in claim 1 is disclosed in documents 1 to 4, and therefore lacks novelty and does not involve an inventive step. Documents 1 to 4 indicate that a catalyst which has deteriorated in a reaction is removed from a reaction vessel before being regenerated.</p>			
<p>The invention set forth in claim 2 does not involve an inventive step in the light of document 2. Document 2 indicates that waste catalyst is separated into inorganic fibers and a catalyst component, and that the catalyst component is recovered.</p>			

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

The invention set forth in claim 6 is disclosed in documents 3 and 4, and therefore lacks novelty and does not involve an inventive step. Documents 3 and 4 indicate that a plurality of different types of solid catalyst components with different shapes are included, and after a removal step, the respective solid catalyst components are separated.

The invention set forth in claim 7 does not involve an inventive step in the light of document 3. Document 3 indicates that a screen is used when separating pills, which are cylindrical catalyst particles, into pills having a ratio of length to diameter (L/D) of one or more and pills having a ratio of less than one.

The invention set forth in claims 10 and 11 does not involve an inventive step in the light of documents 1 to 4. It would be easy for a person skilled in the art to apply the features set forth in documents 1 to 4 to known complex oxide catalysts.

The invention set forth in claims 3 to 5, 8 and 9 is not disclosed in documents 1 to 4, and would not be obvious to a person skilled in the art.